NEW YORK STATE Integrated Pest Management PROGRAM

Cornell University Cooperative Extension

Elements of IPM for Carrots in New York State

MAJOR PESTS		
Insects	**Diseases**	**Weeds**
aphids	Alternaria leaf blight	broadleaves
leafhoppers	Cercospora leaf blight	annual grasses
	bacterial leaf blight	perennial weeds
	root knot nematode	
	Sclerotinia white mold	
	seed decay	
	Rhizoctonia	
	storage rots	

A. SITE PREPARATION AND SELECTION	Acreage Goal	Points
1) Review weed map/list of fields to choose appropriate weed control strategies. See the Weed Assessment List available for use in satisfying this element.	50%	10
2) Crop rotation. For root knot nematode, Sclerotinia rot, and crater rot (Rhizoctonia) rotate with non-host crops, especially grains, for 2-3 years. For blights (Alternaria , Cercospora and bacterial spot) rotate with non-host crops for 2-3 years.	100%	10
3) Sample soil to determine presence of root knot nematode (RKN) before using the insecticide treatment**. If testing is not available then check roots of previous crop for RKN. Any susceptible plant grown the previous year can cause a problem with RKN.	50%	5
4) Soil test at least once every 3 years. Maintain records. Fertilize according to test results.	100%	5
B. PLANTING		
1) Use recommended fungicide seed treatment for seed decay and seedling diseases.	75%	5
2) Use tolerant varieties and/or hot water treated seed whenever possible to avoid possible seed borne disease problems	50%	5
C. PEST MONITORING and FORECASTING		
1) Monitor regularly for insects and diseases including leaf blights, Sclerotinia white mold, Rhizoctonia, aphids, mites and leafhoppers.	40%	10

2) Update weed map/list of the field when small for use in evaluating the current year's weed control and for use in determining if a post emergent treatment is needed. See the Weed Assessment List available for use in satisfying this element.	50%	10
D. PEST MANAGEMENT		
1) Apply pesticides to control Sclerotinia white mold, leaf blights, aphids, and leafhoppers only if the pest is found to be present	20%	10
2) Choose labeled pesticides that have the least environmental impact. Choose pesticides which preserve natural enemies. Take into account resistance management strategies.	35%	10
3) Use thresholds (based on varietal susceptibility) for Alternaria blight.	50%	5
4) Keep records of pest densities, cultural procedures, and pesticide applications for use in the future.	80%	10
5) If mites or diseases are a problem, harvest early.	50%	5
E. POST HARVEST		
1) Make (or update if one has been made for this field previously) a weed map/list of the field for use in planning for next year. See the Weed Assessment List available for use in satisfying this element.	50%	10
2) For fields harvested before October 1, establish cover crop for weed control and nitrogen retention.	25%	5
3) Disk fields to destroy carrot top residue in order to reduce Cercospora and Altrernaria blight inoculum (if field conditions allow)	10%	5

Total Points Available: 120

Points needed to qualify (80%): 96

** Testing for root knot nematode may be available from one of the following locations:

Peter Mullin
Eden Bioscience Corporation
5795 NE Minder
Poulsboro, WA 98370
1-800-635-6866

Dr. Ken Barker
Dept of Plant Pathology
North Carolina State Univ.
Raleigh, NC

Dr. George Bird
Dept of Entomology
Michigan State University
E. Lansing, MI

TO LEARN MORE...

Specific information on how to apply and use these IPM elements can be found in the following publications:

Integrated Crop and Pest Management Guidelines for Commercial Vegetable Production.

A Method to Measure the Environmental Impact of Pesticides. 1992. New York Food and Life Sciences Bulletin Number 139.

The above reference material can be obtained from county Cornell Cooperative Extension offices.

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